

ARGUMENT

Claims 17-28, 30-42, 45, 47-48, 50-51, 53-69 and 86-87 remain pending in the application.

Claims 1-16, 29, 43-44, 46, 49, 52 and 70-85 have been deleted. Claims 17, 25, 30, 32, 36, 41, 47, 48, 53, 54-58, 60, 62-65, 86 and 87 have been amended. Of these amended claims, Claims 17 and 30, which were previously dependent claims, have now been amended to independent form and are now the only two independent claims in the application.

The Examiner has rejected various claims under 35 U.S.C. 102(b) based on Kostelnicek et al. (USP 3,886,494). Applicant traverses each of these rejections on the grounds that the reference does not teach each and every element of the limitations set forth in Applicant's remaining claims, as amended.

Claim 17 has been amended to dependent form. Claim 17, in its previously dependent form, added the step of "partitioning" said plurality of seismic acquisition units into at least two sub-sets of seismic acquisition units and using a short range radio transmission technique having parameters set so that "non-interfering radio transmission" may be effected in each sub-set. In short, the method partitions a large array into subsets and utilizes each subset to transmit data collected by that subset. Because non-interfering radio transmissions are selected for each subset, the subsets can gather and transmit data simultaneously. This speeds up the process of transmitting data from a large array back to the central collection point. Kostelnicek does not teach such a method.

Rather, Kostelnicek teaches a method for utilizing a predetermined, preset line of "geo-link" units to relay seismic data by radio transmission. The method selects a group of geo-link units to be

“active,” such as A2, A3, A4 . . . A54. These units are preset by a manual code switch 19 so that a command signal C1 from the control station selects the group as the “active group” upon sending the command signal. Col. 5, lines 42-48. A unit is “active” when it is capable of “injecting its collected data signal” into the radio relay system at selected times. Col. 5, lines 32-35. Col. 24, lines 32-40. In contrast, a unit is passive if it is unaffected by the timing sequence and serves only to relay data radio transmissions. Col. 6, lines 4-7. The reference teaches that selection of from one to 100 geo-link units as an active group is a practical variant.

To select another group of units, another different command signal C1 is transmitted. Col. 6, lines 8-16. The references teaches that this command signal shifts the responsive or “active” group. Id. Clearly from the teaching, the control station is capable of only “activating” one group of “geo-links” at a time. Notably, within an “active” group, five frequencies are utilized to reduce transmission times. This is termed an “extended quaternary coding system. Col. 12, lines 26-45. Moreover, all five of these frequencies or channels are transmitted from the same geo-link unit and received by the receiver 11 of the next geo-link unit. Col. 13, lines 17-20; Col. 14, lines 7-17. Col. 20, lines 33-40.

There is nothing in Kostelnicek that teaches that multiple, separate groups of geo-links are active simultaneously. In fact, by teaching that a new command signal must be sent in order to “shift” to a new set of active geo-link units, it is clear that only one group of units are active at any one time. This is in contrast to applicant’s claimed invention. Moreover, there is no teaching in Kostelnicek of the need to have non-interfering radio transmissions for each sub-set. There is a need for this in Applicant’s invention because there are multiple active sets of seismic units. For the foregoing reason, Kostelnicek cannot be said to teach each and every element of Claim 17.

Turning to Claim 30, the claim is directed to a method for identifying multiple possible transmission paths through a network of seismic units and then selecting the particular transmission path that satisfies certain path criteria. Nothing in Kostelnicek teaches such a process. Rather, the particular units to be utilized for the transmission path in Kostelnicek are preset by a manual code switch 19 so that a command signal C1 from the control station selects the group, Col. 5, lines 42-48, once the unit has been preset utilizing a thumb-wheel control on each geo-link unit. Col. 22, lines 35-40. Kostelnicek further teaches that “each geo-link unit is programmed numerically in sequence relative to the surveyors stakes.” Col. 24, lines 9-11. In short, there is no random selection of a transmission path post deployment in Kostelnicek. For this reason, there is no post deployment path selection taught by Kostelnicek.

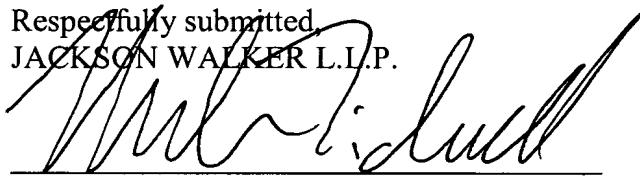
In contrast, the Applicant’s method is intended to overcome an interruption along a particular transmission path by selecting another transmission path to complete the transmission. For example, it may be difficult to transmit radio signals between units because of terrain or other factors. Utilizing Applicant’s invention, another transmission path through the array would be selected. Likewise, if a seismic unit is not functioning for some reason, a transmission path “around” this unit could be selected. Kostelnicek, in contrast, teaches that in the case of poor radio transmission conditions, adjacent geo-links in a chain could be hardwired with a coaxial cable or other wave guide. Col. 25, line 65 – Col. 26, line 5. The failure of a geo-link unit in the Kostelnicek transmission path is not addressed at all in Kostelnicek. Thus, Kostelnicek cannot be relied upon as teaching each and every element of Claim 30.

For the foregoing reasons, the rejection of Claims 17 and 30 based on Kostelnicek should be withdrawn and these claims should be passed to allowance. Correspondingly, all claims that depend therefrom should also be passed to allowance.

Applicant has amended the claims to clarify the structure which Applicant believes distinguishes the invention over the cited references, to clarify the functions of the claimed invention, and to clarify the limitations within the claims drawn to such structure. In this regard, Claims 17 and 30 were simply amended to place them in independent form by incorporating all of the limitations of those claims from which they previously depended. However, amendments have not been made to narrow the claims of the original application.

If the Examiner feels that a telephone conference with the undersigned would be helpful to the allowance of this application, a telephone conference is respectfully requested.

Respectfully submitted,
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CERTIFICATE OF MAILING

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Date: October 20, 2005

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